

**REMARKS**

Claims 1-4, 7-13, 16, 17, 19 and 20 are pending. Claim 17 has been amended. Claim 18 has been cancelled without prejudice. Claims 1, 4, 7, 8, 12 and 16-17 are the independent claims.

Claims 17 and 18 were objected to as being duplicative. Claim 18 has been cancelled, which renders the objection moot.

Claims 17 and 18 were rejected under 35 U.S.C. § 112, second paragraph, as indefinite. The cancellation of claim 18 renders its rejection moot. Claim 17 has been amended to ensure antecedent basis for all claim terms. Withdrawal of the rejection is requested.

Claims 1-3, 8, 12, 13 and 16-18 were rejected under 35 U.S.C. § 103(a) over U.S. Published Appln. No. 20030037167A1 (Garcia-Luna-Aceves) in view of U.S. Patent 5,034,933 (Sasuta). Claim 4 was rejected under 35 U.S.C. § 103(a) over Garcia-Luna-Aceves in view of U.S. Published Appln. No. 005850592A (Ramanathan). Claim 7 was rejected under 35 U.S.C. § 103(a) over Garcia-Luna-Aceves in view of U.S. Patent 6,381,467 (Hill et al.). Claims 9, 11, 19 and 20 were rejected under 35 U.S.C. § 103(a) over Garcia-Luna-Aceves in view of Sasuta et al., and further in view of U.S. Published Appln. No. 006137885A (Totaro et al.). Claim 10 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Garcia-Luna-Aceves in view of Hill et al., and further in view of Totaro et al. The cancellation of claim 18 renders its rejection moot. Applicants submit that the independent claims are patentable over the cited art for at least the following reasons.

A feature of claim 1 not taught or suggested in the art of record is that in a relay station device having a first function for directly communicating with a center and a second function for communicating with the center via another relay station, one of a first operating

mode for executing the first function and a second operating mode for executing the second function is set to the relay station device, and wherein a mode is selected based upon a communication quantity of the relay station device.

As was conceded in the Office Action, Garcia-Luna-Aceves does not teach this feature. The position was taken in the Office Action that it would have been obvious to combine Sasuta, which shows a method of allocating communication resources, with Garcia-Luna-Aceves.

However, as was pointed out in the previous response, the manner of deciding which path to use in Garcia-Luna-Aceves is dependent on optimizing, i.e., seeking the shortest, distance between an IR and destination. That is, “the IR chooses a neighbor n as its successor (next hop) towards a destination if, and only if, (1) the distance to the destination through that neighbor is the smallest attainable distance to the destination through any neighbor, and (2) the distance to each intermediate hop in the path from the IR to the destination through neighbor n is the smallest attainable distance to that destination through any neighbor.” Paragraph 0083 of Garcia-Luna-Aceves.

For at least this reason, there would have been no motivation to modify Garcia-Luna-Aceves’ device to add another variable, namely the amount of communication arriving at the IR, in deciding whether direct or indirect communication should be employed, since using this additional criteria would often work against Garcia-Luna-Aceves’ design goal of utilizing the shortest path to the destination. For at least this reason, no one of ordinary skill in the art would have been motivated to make the proposed modification, and amended claim 1 is believed patentable. Claim 12 recites substantially the same feature and is believed patentable for similar reasons.

Claim 4 is directed to a network system. The network system includes: a center; a relay station device; and a terminal communicating with the center via the relay station device.

The relay station device has a first function for directly communicating with the center and a second function for communicating with the center via another relay station, wherein one of a first operating mode for executing the first function and a second operating mode for executing the second function is set to the relay station device. When the relay station device cannot communicate with a host station including the another relay station, the relay station device is set to the first operating mode. When the relay station device cannot communicate with the host station including the another relay station, the relay station device outputs a communication stop signal indicating the host station to the center. When the host station can communicate with the relay station device, the host station outputs to the center a recovery declaration signal indicating that the host station can communicate with the relay station device, and wherein the center outputs to the relay station device a recovery notification signal indicating that the host station is communicable based on the communication stop signal and the recovery declaration signal, and wherein the relay station device is switched from the first operating mode to the second operating mode in response to the recovery notification signal.

In the Office Action it was conceded that Garcia-Luna-Aceves did not teach the feature of claim 4 by which when the relay station device cannot communicate with the host station including the another relay station, the relay station device outputs a communication stop signal indicating the host station to the center, and when the host station can communicate with the relay station device, the host station outputs to the center a recovery declaration signal indicating that the host station can communicate with the relay station device, and wherein the center outputs to the relay station device a recovery notification signal indicating that the host station is communicable based on the communication stop signal and the recovery declaration signal, and wherein the relay station device is switched from the first operating mode to the second operating mode in response to the recovery notification signal.

The Office Action relies upon Ramanathan to remedy this deficiency. However, while the portions of Ramanathan cited in the Office Action relate generally to reorganizing in the event of changes occurring in the network, there is no teaching or suggestion of all the features of the claim, in exactly the recited relationship. It is never proper to correspond the prior art to the “gist” of the claimed invention, which is being done here. For at least this reason, no prima facie case of obviousness has been set forth.

Further, the alleged motivation is not a motivation to change Garcia-Luna-Aceves, it is simply a general statement of the desirability to adaptively organize. No motivation has been identified that would cause one of ordinary skill in the art to make the proposed modification to Garcia-Luna-Aceves, even if the combination would read on the claim features, which it does not in any event. For this additional reason, no prima facie case of obviousness has been set forth with regard to claim 4.

Claim 7 recites, inter alia, that the first relay station device is set to one of a first operating mode for executing said first function and a second operating mode for executing said second function based on said communication quantity data. In the Office Action, it was conceded that Garcia-Luna-Aceves does not teach this feature. However, the position was taken that Hill et al. remedies this deficiency.

However, as was pointed out above in connection with the rejections of claims 1 and 12, each of which recite a substantially similar feature, the manner of deciding which path to use in Garcia-Luna-Aceves is dependent on optimizing, i.e., seeking the shortest, distance between an IR and destination. That is, “the IR chooses a neighbor *n* as its successor (next hop) towards a destination if, and only if, (1) the distance to the destination through that neighbor is the smallest attainable distance to the destination through any neighbor, and (2) the distance to each intermediate hop in the path from the IR to the destination through neighbor *n* is the smallest attainable distance to that destination through any neighbor.” Paragraph 0083 of Garcia-Luna-Aceves.

For at least this reason, there would have been no motivation to modify Garcia-Luna-Aceves' device to add another variable, namely the amount of communication arriving at the IR, in deciding whether direct or indirect communication should be employed, since using this additional criteria would often work against Garcia-Luna-Aceves' design goal of utilizing the shortest path to the destination. For at least this reason, no one of ordinary skill in the art would have been motivated to make the proposed modification, and no prima facie case of obviousness has been established with regard to claim 7.

Claim 8 is directed to a network system. The network system includes: a center; a relay station device; and a terminal communicating with the center via the relay station device. The relay station device has a first function for directly communicating with the center and a second function for communicating with the center via another relay station. One of a first operating mode for executing the first function and a second operating mode for executing the second function is set to the relay station device in response to a message indicating mode switching transmitted from a slave station including the terminal.

The Office Action conceded that Garcia-Luna-Aceves does not teach the feature that one of a first operating mode for executing the first function and a second operating mode for executing the second function is set to the relay station device in response to a message indicating mode switching transmitted from a slave station including the terminal.

The Examiner relied upon Sasuta to remedy this deficiency. However, while the cited portion of Sasuta discusses the general concept of requesting additional resources if a fully loaded condition is encountered, there is no teaching or suggestion of the feature discussed above. It is completely improper to examiner the "gist" of the invention. Each and every word of every limitation must be accorded patentable weight, and each must be taught or clearly suggested in the prior art. In this case, the Examiner, among other things, has failed to show how the request by system 1 (201) for more resources in Sasuta actually precisely meets the recited limitation mentioned in the foregoing paragraph. For at least this reason,

claim 8 is believed patentable over the cited references. Claims 16 and 17 recite a similar feature and are believed patentable for substantially similar reasons.

The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

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Respectfully submitted,

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